Customer No. 01333

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

in re Application of:

Mark E. Bridges, et al.

AN IMAGE DISPLAY SYSTEM WITH BODY POSITION COMPENSATION

Serial No. 10/084,119

Filed 27 February 2002

Mailstop Commissioner for Patents P.O. Box 1450 Alexandria, VA. 22313-1450

Sir:

Group Art Unit: 2851

Examiner: Magda Cruz

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# PETITION TO REVIVE AN UNINTENTIONALLY ABANDONED APPLICATION UNDER 37 CFR 1.137(b) AND, IN THE ALTERNATIVE, TO WITHDRAW HOLDING OF ABANDONMENT IN VIEW OF **CERTIFICATE OF MAILING PRACTICE UNDER 37 CFR 1.8**

A Notice of Abandonment was mailed by the USPTO on June 8, 2004 on the above-indicated application for failure to timely file any reply to the Office letter-mailed on Aug. 22, 2003.

Applicants petition to revive the application as being unintentionally abandoned and, in the alternative, for withdraw of the holding of abandonment in view of timely mailing of a reply in accordance with certificate of mailing practice under 37 CFR 1.8.

An amendment mailed on October 7, 2003 and received by the United States Patent and Trademark Office is a complete response to the Official Action mailed August 22, 2003. Therefore, it is respectfully requested that the holding of abandonment be withdrawn in view of the timely mailing with the Certificate of Mailing under 37 CFR 1.8(a). In the alternative, if there is determined to have been a delay in filing a reply to the Office letter mailed on Aug. 22, 2003, the delay in reply was unintentional. This petition is within one year of the date of abandonment.

A timely response to the Office Action mailed August 22, 2003, including an Amendment was mailed on October 7, 2003. The amendment contained a Certificate of Mailing as set forth in 37 CFR 1.8(a) and signed by Carol J. Murphy, authorizing payment of any additional fees. A Copy of the Amendment is attached to this Petition. Also attached hereto is a copy of the postcard which accompanied the documents mailed October 7, 2003. The postcard was returned with the Office "MAILROOM" stamp indicating receipt by the United States Patent and Trademark Office on October 9, 2003. As stated in MPEP 503 "A postcard receipt which itemizes and properly identifies the papers which are being filed serves as prima facie evidence of receipt in the PTO of all items listed thereon on the the date stamped thereon by the PTO."

A Status Inquiry was mailed April 1, 2004. Attached hereto is a copy of the accompanying postcard which was returned with the Office "OIPE" stamp indicating receipt by the United States Patent and Trademark Office on April 6, 2004.

A Request for Reconsideration and Withdrawl of Holding or Abandonment in View of Certificate of Mailing Practice Under 37 CFR 1.8 was filed, by facsimile to Examiner Magda Cruz on June 14, 2004. A copy is attached along with a copy of the "Auto-Reply Facsimile Transmission" of the cover page received by the USPTO, which itemizes and properly identifies the papers which were filed. The Request for Reconsideration and Withdrawl of Holding or Abandonment in View of Certificate of Mailing Practice Under 37 CFR 1.8 petitions, in the alternative for revival of the application under 37 CFR 1.137(b) as unintentionally abandoned. The Examiner communicated by telephone on or about December 8, 2004 that a petition to revive was necessary in this matter.

Please charge necessary fees, including, if appropriate, Fees for the Petition to Revive to Eastman Kodak Company Deposit Account No. 05-0225. (A duplicate copy of this letter is enclosed).

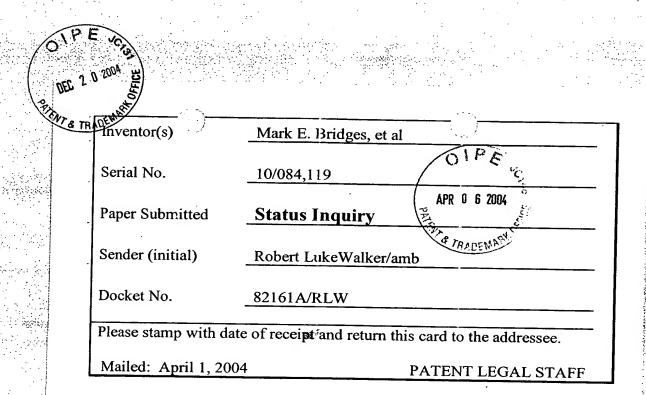
It is respectfully requested that the amendment be considered.

Respectfully submitted,

Attorney for Applicant(s) Registration No. 30,700

Robert Luke Walker/amb Rochester, NY 14650

Telephone: (585) 588-2739 Facsimile: (585) 477-1148



#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Ronald S. Cok, et al

AN IMAGE DISPLAY SYSTEM WITH BODY POSITION COMPENSATION

Serial No. 10/084,119

Filed 27 February 2002

Commissioner for Patents P.O. Box 1450 Alexandria, VA. 22313-1450 Group Art Unit: 2851

Examiner: Magda Cruz

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Anita Marie Barker

Anita Marie Barker

Sir:

#### **STATUS INQUIRY**

U.S. Serial No. 10/084,119 was filed 27 February 2002. Please advise us as to the status of this application.

Respectfully submitted,

Robert Luke Walker/amb

Telephone: (585) 588-2739 Facsimile: (585) 477-1148

Attorney for Applicants
Registration No. 30,700

**USPTO FO:Auto-reply fax** 

6/14/2004 3:31 PM PAGE 17 448 COMPANY: to 585 47

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Received Cover Page =====>

EASTMAN KODAK/PATENT

PAGE 01/15

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ATTN: MAGDA CRUZ ART UNIT 2851 United States Patent & Trademark Office

PAX No. (703) 872-9306

FROM:

Anim Barker/Atomey, Robert Luke Walker

Patent Legal Staff
EASTMAN KODAK COMPANY 343 State Street

Rochester, New York 14650-2201 FAX NO. 585-4/7-1148

June 14, 2004

Re: Docket No. 82161A/THC/RLW U.S. Scrial No. 10/084,119 Filed on February 27, 2002

Dear Examiner Cruz:

Per our phone conversation of this afternoon. I am faxing you a Request for Reconsideration and Withdrawal Of Holding Of Abanshopment in View of Certificate of Mailing Practice Under 37 CFR 1.8, and copies of the Amendment, and Replacement Pigure 1 that were mailed to the US Patent Office on October 7, 2003. I sm also sending you a copy of the postcard that was stamped in receipt by the U.S. Patent Office on October 9, 2003. It is a respectfully requested that the amendment be considered.

Thank you for your assistance in this matter.

Mita Marie Backer

Anita Marie Barker Annia Marie Barker Assistant to Attorney Robert L. Walker Patent Legal Staff Telephone: (585) 477-5492

Attachments: Amendment and Replacement Figure 1 Stamped postcard

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<u>TO:</u>

ATTN: MAGDA CRUZ

**ART UNIT 2851** 

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KODAK PATENT DEPARTMENT FACSIMILE TRANSMISSION Total Pages Including Cover -- 15

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ART UNIT 2851

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FROM:

Anita Barker/Atorney, Robert Luke Walker

Patent Legal Staff

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Thank you for your assistance in this matter.

uta Marie Barker

Kindest regards,

Anita Marie Barker

Assistant to Attorney Robert L. Walker

Patent Legal Staff

Telephone: (585) 477-5492

Attachments: Amendment and Replacement Figure 1

Stamped postcard



Inventor(s)

Ronald S. Cok et al.

Serial No.

10/084,119

Paper Submitted

Amendment

Sender (initial)

Thomas H. Close/cjm

Docket No.

82161A/THC

Please stamp with date of receipt and return this card to the addressee.

Date mailed: October 7, 2003 PATENT LEGAL STAFF



82161A/THC Customer No. 01333

#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Inventor(s):

Ronald S. Cok et al.

Title:

AN IMAGE DISPLAY SYSTEM WITH BODY POSITION COMPENSATION

Serial No. 10/084,119

Filed: February 27, 2002

Commissioner for Patents P. O. Box 1450 Alexandria, VA 22313-1450

Sir:

Group Art Unit: 2851

Examiner: Magda Cruz

I hereby certify that this correspondence is being deposited today with the United States Postal Services as first class mail in an envelope addressed to Commissioner for Patents, P. O. Box 1450, Alexandria VA 22313-1450

Name: Carol J. Murphy

Date: October 1, 2003

October 7, 2003

ENTERED IN POIS

- Wale Chu

Date 10/7/03

## **AMENDMENT**

In response to the Office Action dated August 22, 2003, please amend the application as follows:

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims begin on page 4 of this paper.

Amendments to the Drawings begin on page 9 of this paper and include an attached replacement sheet.

Remarks/Arguments begin on page 10 of this paper.

#### **Amendment to the Specification**

Please replace the paragraph beginning on page line with the following rewritten paragraph:

Referring to Fig. 1 in a first embodiment, an image display system 102 10 includes an adjustable rest such as a chair 12, an image projector 14, an eye position detector including cameras 16 provided with light sources 19 for emitting non-visible radiation such as infrared radiation, and a controller 18. An example of an eye position detector suitable for use with the present invention is shown aforementioned European patent EP 0 350 957 A3. Components of the image projector 14 can be mounted to enable X-Y translation of the exit pupils for example on translation stages 11 and 13, respectively. Alternatively, an adjustable optical element or elements, such as a moveable mirror or lens can be employed to adjust the position of the image formed by the display system. The chair 12 is moveable for example in the X-Y and Z directions by a servo-mechanism 17 mechanically connected to the chair 12 and controlled by the controller 18. The servo-mechanism 17 may also be capable of rotating the chair about one or more axes such as the horizontal and vertical axes. Alternatively, the chair may be moveable with six degrees of freedom. In operation, the controller 18 first sets the position of the exit pupils by adjusting the image projector components to a nominal position that maximizes the image projector's range of adjustment. The eye position detector 16 located in front of a viewer 20 detects the position of the viewer's eyes. The eye position detector includes an image processor for detecting the location of the viewer's eyes within the image(s) produced by camera(s) 16 and generates eye-position information. This eye-position information is sent to the controller 18 and is compared to the exit pupil location provided by the image projector 14. If the positions are different, the controller 18 will adjust the position of either the projected image or the adjustable chair 12 to align the viewer's eyes with the predetermined image location. The adjustable rest 12 may include a head-rest 23 for positioning the viewer's head with respect to the projected image. Small, quick movements of the viewer's eyes are accommodated

by adjusting elements of the image projector to align the exit pupil(s) with the viewer's eye(s). Large, slow movements of the viewer's eyes are accommodated by moving the adjustable rest to relocate the viewer's eyes in the nominal position.

#### **Amendment to the Claims:**

This listing of claims will replace all prior versions and listings, of claims in the application.

#### **Listing of Claims:**

- 1. (original) An image display system, comprising:
- a) an image projector including a mirror optical element for forming an exit pupil for viewing an image at a viewing location;
- b) a viewer eye position detector for generating a signal representing the position of a viewer's eyes relative to the location; and
- c) a control system responsive to the signal for providing relative motion between the viewer and the image projector to maintain the viewer's eyes at the exit pupil.
- 2. (original) The image display system, claimed in claim 1, wherein the image display system further includes an adjustable rest for positioning a viewer relative to the image projector and the control system adjusts the position of the adjustable rest.
- 3. (original) The image display system claimed in claim 1, wherein the control system adjusts the position of the image projector.
- 4. (original) The system claimed in claim 1, wherein the image projector is adjustable to move the predetermined image location and wherein the control system adjusts the image projector in coordination with the adjustable rest to locate the viewer's eye at the exit pupil.

- 5. (original) The system claimed in claim 4, wherein the image projector is adjustable to move the predetermined image location in a horizontal and a vertical direction.
- 6. (original) The system claimed in claim 2, wherein the adjustable rest translates in horizontal and vertical directions, and rotates about the horizontal and vertical axes.

#### 7. (cancelled)

- 8. (original) The system claimed in claim 1, wherein the viewer eye position detector includes a light source for emitting non-visible radiation and one or more cameras.
- 9. (original) The system claimed in claim 8, wherein the light source emits infrared radiation.
- 10. (original) The system claimed in claim 2, wherein the adjustable rest is adjustable to compensate for the height of a viewer.
- 11. (original) The system claimed in claim 1, wherein the projected image is auto-stereoscopic.
- 12. (original) The system claimed in claim 3, wherein the image projector includes means for adjusting the location of the exit pupil.
- 13. (original) The system claimed in claim 2, wherein the adjustable rest is a chair.

- 14. (original) The system claimed in claim 13, wherein the adjustable rest includes a servo-mechanism.
- 15. (original) The system claimed in claim 13, wherein the adjustable rest further includes a viewer restraint.
- 16. (original) The system claimed in claim 1, further comprising a motion platform including a viewer station and on which the image projector is mounted for imparting a sense of motion to the viewer.
- 17. (original) The system claimed in claim 1, further comprising a sound system capable of creating a perceptual location of a source of sound and wherein the control system adjusts the perceptual location of sound from the sound system in response to viewer movements.
- 18. (original) The system claimed in claim 2, wherein the adjustable rest further includes means for locating the rest for convenient entry prior to positioning the viewer and for convenient egress following viewing.
- 19. (original) The system claimed in claim 2, wherein the adjustable rest includes a head-rest for positioning the viewer's head.
- 20. (original) The system claimed in claim 2, wherein the adjustable rest includes a manual control for allowing the viewer to override the control system.
- 21. (original) The system claimed in claim 1, wherein the eye position detector includes means for detecting viewer movement towards and away from the projector.

- 22. (original) The system claimed in claim 21, wherein the means for detecting viewer movement employs triangulation.
- 23. (original) The system claimed in claim 1, wherein the viewer eye position detector employs one or more cameras.
- 24. (original) The system claimed in claim 23, wherein the one or more cameras are placed in front of the viewer.
- 25. (original) The system claimed in claim 23, wherein the one or more cameras are located beside, or in front of the viewer.
- 26. (original) The image display system claimed in claim 3, wherein the image projector is adjustable to move the image projector in a horizontal or vertical direction.
- 27. (original) The image display system claimed in claim 3, wherein the image display system includes an adjustable frame for mounting the image projector.
- 28. (original) The image display system claimed in claim 27, wherein the adjustable frame is moveable in a horizontal or vertical direction.
- 29. (original) The image display system claimed in claim 27, wherein the adjustable frame is rotatable about one or more axes.
- 30. (original) The image display system claimed in claim 1, wherein the control system accommodates for a viewer's height.

- 31. (original) The image display system claimed in claim 23 wherein the one or more cameras are mounted on the image projector.
- 32. (original) The image display system claimed in claim 3 wherein the control system adjusts the position of the mirror optical element.
- 33. (original) The image display system claimed in claim 32 wherein the image projector contains a multiplicity of optical elements and light valves and the control system adjusts both the position of the optical elements and the light valves and the position of the mirror optical element independently.

## **Amendment to the Drawings:**

The attached sheet of drawing includes changes to Fig. 1. This sheet replaces the original Fig. 1. Approval by the Examiner is respectfully requested.

Attachment: Replacement Fig. 1.

#### REMARKS

The drawings are objected to under 35 CFR 183(a) because they do not show every feature of the invention specified in the claims. The "adjustable rest that moves with six degrees of freedom" is not shown. Claim 7 directed to this feature is hereby cancelled. The "adjustable rest further including a viewer restraint" is shown as a seatbelt 28 in Figs. 1 and 2. Reference characters "11" and "13" have both been used to designate "translation stages". The specification is hereby amended to point out that the translation stages are X and Y translation stages respectively. Fig 1 is hereby amended to label the axes of the reference coordinates with X and Y. Reference characters "42" and "44" have both been used to designate "eye position". The Examiner states that it is not clear if elements 42 and 44 are the eye position for the left and/or right eye. The pairs of dark dots labeled 40, 42 and 44 in Fig. 3 are meant to represent both eyes at three different positions. It is believed that the description at page 7, lines 25 to 28, make this clear.

It is believed that the claims in the application are allowable over the prior art and such allowance is respectfully requested.

The Commissioner is hereby authorized to charge any fees in connection with this communication to Eastman Kodak Company Deposit Account No. 05-0225. *A duplicate copy of this communication is enclosed.* 

Respectfully submitted,

Thomas H. Close

Attorney for Applicant(s) Registration No. 27,428

THC:cim

Telephone: (585) 722-2396 Facsimile: (585) 477-4646

Enclosures: Replacement Fig. 1



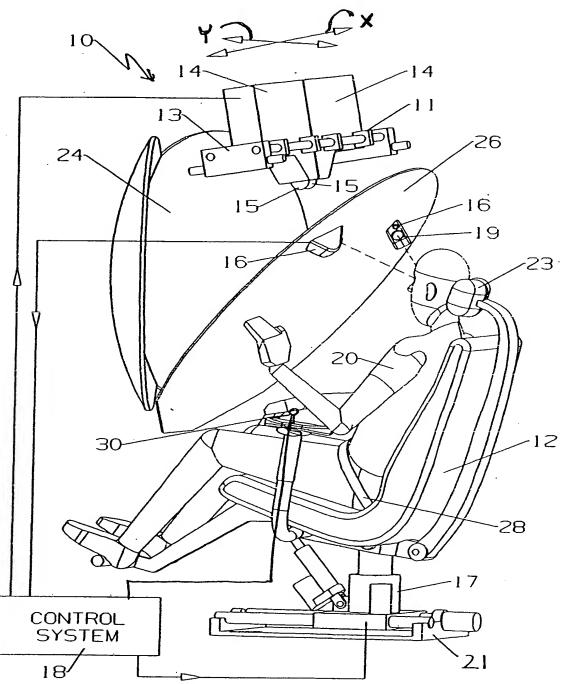


FIG. 1

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